

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICANTS: Andreas Kappel et al. ATTORNEY DOCKET NO.: P99,1354

SERIAL NO: 09/365,208 GROUP ART UNIT: 2834

FILED: July 30, 1999 EXAMINER:

INVENTION: MULTILAYER PIEZOACTUATOR AND METHOD FOR
MANUFACTURING SAME

PRELIMINARY AMENDMENT

Assistant Commissioner of Patents

Washington, D.C. 20231

S I R:



Please enter the following Preliminary Amendment before further examination on the merits.

In the Claims:

✓ Please add new claims 16 and 17 as follows:

a' --16. A piezoelectric multilayer actuator as claimed in claim 1, wherein at least one of the piezoelectric layers is made of one of the group consisting of PbTiO_3 , PbZrO_3 , and PZT, and wherein an opening is provided on one side of each of the electrodes, and wherein the actuator further includes means for alternating external contacting of the electrodes such that a multilayer electrode structure is formed which is substantially similar to a multiple plate capacitor.--

--17. A method for manufacturing a piezoelectric multilayer actuator as claimed in claim 6, wherein the electrodes are isolated from the compact solid element by parallel saw cuts that are rotated by 60° , and wherein each of the electrode structures is formed of a regular pattern of a plurality of hexagonal electrodes.--

Respectfully submitted,


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